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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jonathan Paul Laker

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EXAMINER

REIS, RYAN ALEXANDER

ART UNIT

PAPER NUMBER

4124

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,602	LAKER, JONATHAN PAUL	
	Examiner	Art Unit	
	RYAN REIS	4124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/27/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/27/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 17, line 5 reads "small apertures 30" but reference number "30" is not labeled in the drawings.

Page 18, line 9 reads "retaining ring 33" where the retaining ring element was previously referenced using number "31" in line 7 of the same page.

Appropriate correction is required.

Claim Objections

2. Claim 32 objected to because of the following informalities: Claim 32 reads "treaded" which seems to be a misspelling of "threaded."

Appropriate correction is required.

Drawings

3. The drawings are objected to because of the following informalities:

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In Figure 1 of the drawings, the reference number “7” for the “sealing washer” points to the “flow restriction plate 6” element. The other figures seem to correctly point to the “sealing washer.”

In Figure 4 of the drawings, reference numbers “5” and “7” on the lower drawing should be changed to “9” and “8” respectively to properly refer to the correct elements.

In Figure 9 of the drawings, reference number “27” should be changed to “26” to properly refer to the “soft column of water” as mentioned in the description of the drawings in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must

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be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 13-19 and 21 rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 03012249 to Enoki (Enoki). Enoki teaches:

In Reference to Claim 13

A fluid control device for reducing the amount of fluid to be discharged, comprising:

an inlet (from source through main body 1) and an outlet orifice (through discharge holes 3b and 4b in discharge plate 3), said inlet being connected to said outlet by first and second flow paths (first flow path through chamber 4 and out holes 4b; second flow path represented by flow path 8), said second flow path including a single valve member (13 and 15), wherein, in use, the flow of fluid along said first flow path causes

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a pressure to act upon said valve member (against piston 13 in chamber 4) such that the flow of a fluid along said second flow path is prevented by said valve member if the pressure acting on said valve member is less than a threshold value (piston 13 does not allow flow into hole 5 communicating with flow path 8 when pressure in chamber 4 is not adequate to overcome spring 15 force), and the flow of a fluid along said second flow path is allowed by said valve member if the pressure acting on said valve member is greater than a threshold value (piston allows flow into hole 5 communicating with flow path 8 when pressure in chamber 4 is adequate to overcome spring 15 force).

In Reference to Claim 14

The fluid control device as set forth in claim 13 (see rejection of claim 13 above), wherein there is no significant impediment to a fluid flow along the first flow path (fluid is free to exit from holes 4b in first low path).

In Reference to Claim 15

The fluid control device as set forth in claim 13 (see rejection of claim 13 above), wherein said first flow path and said second flow path are coaxial (flow from 4b and 3b are coaxial).

In Reference to Claim 16

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The fluid control device as set forth in claim 15 (see rejection of claim 15 above), wherein said first flow path and said second flow path are concentrically arranged (flow path 8 surrounds chamber 4 radially, thus the two flow paths share the same center).

In Reference to Claim 17

The fluid control device as set forth in claim 13 (see rejection of claim 13 above), wherein said first flow path discharges a fluid flow into said outlet orifice through one or more apertures (4b).

In Reference to Claim 18

The fluid control device as set forth in claim 13 (see rejection of claim 13 above), wherein said second flow path discharges a fluid flow into said outlet orifice through at least one aperture (3b).

In Reference to Claim 19

The fluid control device as set forth in claim 13 (see rejection of claim 13 above), wherein said fluid control device comprises a plurality of outlet orifices (3b and 4b).

In Reference to Claim 21

The fluid control device as set forth in claim 13 (see rejection of claim 13 above), wherein said second flow path discharges a fluid flow

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into said outlet orifice through a straightener arrangement (flow path 8 straightens the fluid to the outlet).

6. Claims 25, 26 and 30 rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,275,843 to Moen (Moen). Moen teaches:

In Reference to Claim 25

A fluid control device, comprising:

a housing ring (28) defining a recess (housing ring 28 has a recess where the horizontal diameter of the member decreases in the direction of the inlet), said housing being attachable to a fluid source (housing uses threaded attachment to communicate with a fluid source);

a cylindrical body member (12) including an increased diameter section (16) being located within said recess of said housing ring, said cylindrical body member defining inner (through 54 and 64) and outer (through outer edges of 66 and 68) concentric flow paths;

a flow restriction plate (34) installed adjacent said increased diameter section of said cylindrical body;

a sealing washer (30) compressed between said cylindrical body member, said restriction plate, and the fluid source; and

a valve (valve made of elements 50, 56, 58, 60 and 62) located in said inner flow path.

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In Reference to Claim 26

The fluid control device as set forth in claim 25 (see rejection of claim 25 above), wherein said flow restriction plate includes at least one hole (38; see column 2, lines 7-10).

In Reference to Claim 30

The fluid control device as set forth in claim 25 (see rejection of claim 25 above) further comprising an array of spray jets (66; see column 2, lines 44-48).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 20 and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 03012249 to Enoki (Enoki). Enoki teaches:

In Reference to Claim 20

The fluid control device as set forth in claim 13 (see rejection of claim 13 above).

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Enoki does not disclose an aerator arrangement. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate an aerator arrangement into the device of Enoki associated with the second flow path in order to soften the output. Applicant admits, "Aerators or straighteners 16 are well known and are commonly used to aerate water or soften the output from a tap." The use of an aerator arrangement to improve similar devices in the same way would yield predictable results.

In Reference to Claim 24

The fluid control device as set forth in claim 13 (see rejection of claim 13 above).

Enoki does not disclose a filter. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate at least one filter into the device of Enoki in order to remove particulates from the fluid. It would be obvious to place a filter adjacent to the water discharge plate 3 to remove particulates from the fluid before exiting the device. Filters are well known in the art, and adding a filter to the device of Enoki would be applying a known technique to a known device ready for improvement to yield predictable results.

9. Claims 22 and 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 03012249 to Enoki (Enoki) in view of US Patent 5,439,143 to Brown et al. (Brown et al.).

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In Reference to Claim 22

Enoki teaches:

The fluid control device as set forth in claim 13 (see rejection of claim 13 above).

Enoki does not disclose a diaphragm valve.

Brown et al. teaches a diaphragm valve which allows fluid to pass through it when pressure against the valve exceeds a threshold value.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the diaphragm valve of Brown et al. for the piston and spring valve in the device of Enoki in order to provide an alternative mode for fluid flow regulating. The piston and spring would be replaced by the diaphragm valve such that the diaphragm valve would be placed at the top of chamber 4 below the opening 5 communicating with flow path 8. When a threshold pressure is reached in chamber 4 the diaphragm valve would open to allow fluid flow into opening 5 and flow path 8 thus having the same affect as the piston and spring valve. This is a simple substitution of one known element for another to obtain predictable results.

In Reference to Claim 23

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Enoki modified by Brown et al. teaches:

The fluid control device as set forth in claim 22 (see rejection of claim 22 above), wherein said diaphragm valve comprises at least two cuts (55 and 56 in Brown et al.) such that when activated said valve defines a substantially regular aperture (see Figure 14 of Brown et al.).

10. Claims 27 and 31 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,275,843 to Moen (Moen).

In Reference to Claim 27

Moen teaches:

The fluid control device as set forth in claim 25 (see rejection of claim 25 above).

Moen does not disclose an O-ring and taper cone arrangement for the restriction plate. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the restriction plate 34 having an array of holes 38 with a flow restriction plate having an O-ring and taper cone arrangement. The applicant states, "The flow restrictor 6 can be an active pressure compensating system utilizing an O-ring and taper cone as shown in the drawing or passive arrangement consisting of a cylindrical plate with an array of holes." Both flow restrictors perform the same function and are readily interchangeable in the

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device of Moen. This is a simple substitution of one known element for another to obtain predictable results.

In Reference to Claim 31

Moen teaches:

The fluid control device as set forth in claim 26 (see rejection of claim 26 above).

Moen does not teach a parallel plate located after the spray jets with a mesh screen and an array of holes on the same matrix as the spray jets. It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a mesh screen at the outlet of Moen in order to remove particulates from the fluid and soften the outlet flow. It would be obvious to place a mesh screen adjacent to the water outlet to filter particulate matter and soften the outlet flow while having holes coincide with the spray jets to minimize further flow obstruction. Mesh screens are well known in the art, and adding a mesh screen to the device of Moen would be applying a known technique to a known device ready for improvement to yield predictable results.

11. Claims 28 -30 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,275,843 to Moen (Moen) in view of US Patent 5,439,143 to Brown et al. (Brown et al.).

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In Reference to Claim 28

Moen teaches:

The fluid control device as set forth in claim 25 (see rejection of claim 25 above).

Moen does not disclose a diaphragm valve.

Brown et al. teaches a diaphragm valve which allows fluid to pass through it when pressure against the valve exceeds a threshold value.

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the diaphragm valve of Brown et al. for the piston and spring valve in the device of Moen in order to provide an alternative mode for fluid flow regulating. The piston and spring would be replaced by the diaphragm valve such that the diaphragm valve would be placed securely underneath the partition 48 with the diaphragm valve covering passage 64. When a threshold pressure is reached above the passage 64, the diaphragm valve would open to allow fluid flow from passage 64 to the outlet thus having the same affect as the piston and spring valve. This is a simple substitution of one known element for another to obtain predictable results.

In Reference to Claim 29

Moen modified by Brown et al. teaches:

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The fluid control device as set forth in claim 28 (see rejection of claim 28 above), wherein said diaphragm valve comprises at least two cuts (55 and 56 in Brown et al.) such that when activated said valve defines a substantially regular aperture (see Figure 14 of Brown et al.).

12. Claim 32 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,275,843 to Moen (Moen) in view of US Patent 5,439,143 to Brown et al. (Brown et al.) as applied to claims 25, 28 and 29 above, and further in view of the rejection made of claim 31 (see rejection of claim 31 above).

Moen teaches:

A fluid control device, comprising:

a housing ring (28) having a threaded section adapted to be attached to a tap housing (housing uses threaded attachment to communicate with a fluid source; see Figure 1), said housing ring defining a recess (housing ring 28 has a recess where the horizontal diameter of the member decreases in the direction of the inlet);

a cylindrical body member (12) including an increased diameter section (16) being located within said recess of said housing ring, said cylindrical body member defining inner (through 54 and 64) and outer (through outer edges of 66 and 68) concentric flow paths;

a flow restriction plate (34) installed adjacent said increased diameter section of said cylindrical body;

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a sealing washer (30) compressed between said cylindrical body member, said restriction plate, and the fluid source; and

an array of spray jets (66) in communication with said inner and outer flow paths (see column 2, lines 44-48).

Moen modified by Brown et al. teaches:

a diaphragm valve located in said inner flow path, said diaphragm valve including at least two cuts such that when activated said valve defines a substantially regular aperture (see rejections of claims 28 and 29 above).

Moen modified by Brown et al. does not teach a parallel plate located after the spray jets with a mesh screen and an array of holes on the same matrix as the spray jets. It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a mesh screen at the outlet of the device of Moen modified by Brown et al. in order to remove particulates from the fluid and soften the outlet flow. It would be obvious to place a mesh screen adjacent to the water outlet to filter particulate matter and soften the outlet flow while having holes coincide with the spray jets to minimize further flow obstruction. Mesh screens are well known in the art, and adding a mesh screen to the device of Moen would be applying a known technique to a known device ready for improvement to yield predictable results.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6,631,737 to Kipping teaches an aerator arrangement used in a fluid flow device US Patent 4,000,857 to Moen teaches a flow control device with a mesh screen. US Patent 4,364,523 to Parkison et al. teaches a flow control device with a spray control washer.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN REIS whose telephone number is (571)270-5060. The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Bomberg can be reached on (571) 272-4922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RR/

/Thor S. Campbell/

Primary Examiner, Art Unit 3742